

## ABSTRACT

A polymer assisted deposition process for deposition of metal oxide films is presented. The process includes solutions of one or more metal precursor and soluble polymers having binding properties for the one or more metal precursor. After a coating  
5 operation, the resultant coating is heated at high temperatures to yield metal oxide films. Such films can be epitaxial in structure and can be of optical quality. The process can be organic solvent-free.